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Research paper

Emotional rigidity negatively impacts remission from anxiety and recovery of well-being

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ABSTRACT

Objectives: Emotional rigidity is described in clinical literature as a significant barrier to recovery; however, few there are few empirical measures of the construct. The current study had two aims: Study 1 aimed to identify latent factors that may bear on the construct of emotional rigidity while Study 2 assessed the potential impact of the latent factor(s) on anxiety remission rates and well-being.
Method: This study utilized data from 2472 adult inpatients (1176 females and 1296 males) with severe psychopathology. Study 1 utilized exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to identify latent factors of emotional rigidity. Study 2 utilized hierarchical logistic regression analyses to assess the relationships among emotional rigidity factors and anxiety remission and well-being recovery at discharge.
Results: Study 1 yielded a two-factor solution identified in EFA was confirmed with CFA. Factor 1 consisted of neuroticism, experiential avoidance, non-acceptance of emotions, impaired goal-directed behavior, impulse control difficulties and limited access to emotion regulation strategies when experiencing negative emotions. Factor 2 consisted of lack of emotional awareness and lack of emotional clarity when experiencing negative emotions. Results of Study 2 indicated higher scores on Factor 1 was associated with lower remission rates from anxiety and poorer well-being upon discharge. Factor 2 was not predictive of outcome.
Conclusions: Emotional rigidity appears to be a latent construct that negatively impacts remission rates from anxiety. Limitations of the present study include its retrospective design, and inefficient methods of assessing emotional rigidity.

1. Introduction

Psychological rigidity is characterized as an unwillingness to consider change or alter viewpoints, attitudes or behaviors (Association, 2013; Dimeff and Koerner, 2007). As a personality trait, rigidity may represent a cross-cutting dimension of dysfunction (Krueger et al., 2012) and its negative impact on psychological functioning is well documented. Rigidity may best be conceptualized as a multi-dimensional construct (Schultz and Searleman, 2002) variably characterized from emotional, cognitive and behavioral perspectives. While cognitive and behavioral facets of rigidity are well-defined and measured, the construct of emotional rigidity has generally been relegated as an aspect of emotion dysregulation (Gratz and Roemer, 2004) or as a component of experiential avoidance (Bond et al., 2011). The current studies addressed this gap by applying factor analytic strategies across well-validated self-report measures assessing facets of neuroticism, emotion dysregulation and experiential avoidance. Exploratory factor analysis of a random selection of inpatients (test sample: N = 1246) was used to identify latent factors. The derived factors were then subjected to confirmatory factor analysis using a validation sample of inpatients from the remaining 50% of inpatients (N = 1222). Latent factors were then used as predictors of point-of-discharge anxiety and well-being functioning for the entire sample (N = 2468).

Rigidity (emotional and cognitive) has long been associated with various forms of psychopathology (Reich et al., 1946; Shapiro, 1965, 1981) and viewed as a major impediment to psychological treatments (Shapiro, 1999). Shapiro's exhaustive clinical observations of rigid character types explicate the developmental genesis and contemporary manifestations of cognitive and emotional rigidity. Drawing together data from psychological testing and clinical observation, Shapiro noted that rigidity cuts across personality types and can be seen in conditions as divergent as obsessive-compulsive disorder and paranoia. In his later writing Shapiro (1999) highlighted the major challenge for rigid character types to incorporate any forms of new learning that does not fit into the edifice of the rigid character's attitudes, beliefs, and narrow range of experiences. Given the fact that most forms of psychotherapy

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(other than pure behavioral therapy) rely on the capacity and willingness to learn and apply new strategies, rigidity is widely believed to be an impediment to change.

Previous research indicates psychological rigidity plays a role in symptom maintenance and recovery from psychiatric symptoms (Ellis and Rufino, 2016; Ruiz and Odriozola-González, 2015; Smith et al., 2017). Psychological rigidity is significantly higher in individuals with co-morbid depression, OCD and anxiety (Gordon et al., 2013; Nieuwenhuijsen et al., 2010). Along with emotion dysregulation, rigidity was found to be associated with neuroticism (Latzman and Masuda, 2013) and mediated the relationship between neuroticism and depression in adolescents (Paulus et al., 2016). Rigidity also mediated the relationship between attachment and clinically significant improvement in emotion regulation in a large sample of adults with severe mental illness (Fowler et al., 2014). Importantly, Ellis and Rufino (2016) found that a decrease in psychological rigidity (operationalized as decreased experiential avoidance) contributed to a significant decrease in suicidal ideation among psychiatric inpatients. Relatedly, rigid individuals manifested higher rates of completed suicide (Dimeff and Koerner, 2007). Recently, Smith and colleagues (2017) found that adult psychiatric inpatients who manifested personality features of stubbornness and rigidity (Obsessive-Compulsive Personality Disorder Criteria 8) were nine times more likely to exhibit moderate to severe anxiety at point of discharge compared to non-rigid peers.

Though the presence of rigidity in various psychopathologies has been recognized and studied, not all researchers agree on how the construct is best conceptualized and measured. Schultz and Searleman (2002) provided a comprehensive review of the complexities of the rigidity construct. They noted that rigidity is most often measured through questionnaires, or less often, through performance-based assessments. For example, in a study of outpatients with eating disorders, rigidity was viewed as a cognitive construct and was measured using the Cambridge Exeter Repetitive Thought Scale (Barnard et al., 2007) with a focus on the affective interlock sub-scale (Startup et al., 2013). Similarly, the Test of Behavioral Rigidity (Schaie, 1955) assessed rigidity across motor-cognitive and personality-perceptual areas through use of questionnaires and problem solving. While there are many ways to measure behavioral or cognitive rigidity (Schultz and Searleman, 2002), there are relatively few measures for emotional rigidity. The Acceptance and Action Questionnaire-II (Bond et al., 2011) has been used to assess experiential avoidance in undergraduates (Rawal et al., 2010) and adults experiencing psychological distress (Fledderus et al., 2010; Fowler et al., 2016). Though the AAQ has been re-conceptualized as a measure of psychological inflexibility, there is a gap in the literature related to the concept of emotional rigidity.

2. The present studies

In the present studies, we sought to probe deeper into the findings from an earlier study (Smith et al., 2017) which found a link between trait rigidity and stubbornness (OCPD criteria 8) and remission from anxiety in an inpatient population. This finding was particularly compelling given that the overarching psychological interventions of the inpatient hospital were mentalization-based and aimed at increasing flexibility, curiosity, and acceptance of emotional experiences. This led us to speculate that individuals who exhibit stubbornness and rigidity may be closed off to specific social learning related to understanding and accepting negative affective states. Recent formulations of psychological resilience and epistemic trust (Fonagy and Allison, 2014; Fonagy et al., 2017; Fonagy et al., 2017a, b) suggest that individuals with limited capacity for adaptive re-appraisal of emotional events and traumas may be unable to benefit from forms of interpersonal learning (such as psychotherapy) that rely on the capacity to form trusting attachments and basic trust in communication.

To address the gap in rigidity literature and further understand the emotional facet of rigidity, this study has two aims: (a) to identify latent factors that may comprise the emotional facet of rigidity and (b) to assess the potential impact of the latent factor(s) on anxiety remission rates and well-being upon discharge.

3. Overview of methods

Data were collected as part of the hospital's Adult Outcomes Project, which is completed by all patients for both research and quality improvement purposes. Patients were assessed using validated measures at admission, and at discharge; baseline measures were completed within 72 h of admission. Assessments were administered using a hospital-wide web survey on laptop computers. Baylor College of Medicine's Institutional Review Board (IRB) granted approval to use the project's data.

The initial sample was comprised of 2472 adult psychiatric inpatients (1176 females and 1296 males) admitted to the Menninger Clinic. All patients admitted from July 2012 to January 2017 were included irrespective of symptom severity or diagnoses. Services were provided through a specialist inpatient psychiatric facility with interventions organized around a mentalization-based therapeutic model (Allen and Fonagy, 2014) that informed all aspects of care including medication management, 24-h nursing care, psycho-educational groups, individual and group psychotherapy, addictions services, and structured interpersonal and recreational activities. Delivery of multimodal interventions was intensive with an average of 59.4 h of available programming per week. Mean length of stay was 44 days (SD = 21.6; Mdn = 44; Mode = 42).

Demographic variables and past psychiatric hospitalizations and service usage were evaluated using a standardized patient information survey (Fowler et al., 2013). Psychiatric disorders including personality diagnoses were assessed using research versions of the Structured Clinical Interview for DSM-IV Disorders (SCID-I/II). The SCID-I (First et al., 1997) and SCID-II (First et al., 2002) were administered by master's level researchers after reviewing pertinent psychiatric and psychosocial evaluations and consultation with the attending psychiatrist.

3.1. Patient characteristics

Patients identified as Caucasian (89%), with others being multiracial (5.6%), Asian (1.9%), Black/African American (1.3%), Hawaiian/Pacific Islander (0.5%) and American Indian (0.2%). Average age was 34.6 years (SD = 14.7). 62% of patients were diagnosed with major depression and 61% met criteria for an anxiety spectrum diagnosis. Educational level was on-par with national census data with 90% attaining a high school diploma and 33% a Bachelor's degree (Ryan and Bauman, 2016).

Past psychiatric histories and diagnostic profiles were indicative of high levels of service utilization, functional impairment and co-morbidity consistent with current definitions of SMI (Kessler et al., 2010). Patients admitted with a high number of previous outpatient therapists (M = 4.1, SD = 3.5), prior psychopharmacologists (M = 3.1, SD = 2.7), psychiatric hospitalizations (M = 2.5, SD = 4.3), and high rates of lifetime (66.2%) and past 2 months (53.8%) suicidal ideation. Eighty-two percent of patients were diagnosed with at least two co-occurring Axis I/II disorders (M = 3.3; *SD* = 2.1). Major mood disorders were present in 72.3% of patients (MDD Spectrum = 59.5%: Bipolar Spectrum = 16.0%), 57.9% with anxiety spectrum disorders, and 52.5% with a substance use disorder. The majority (68.9%) were unable to work in the 30 days prior to admission.

3.2. Study 1: exploratory and confirmatory factor analysis

The aim of Study 1 was to explore the possibility of a latent construct of emotional rigidity by applying factor analytic methodologies